TX3700 • TX3701 • TX3710 • TX3711

Ex d Connectors

User Manual

TROLEX

TX3700 • TX3701 • TX3710 • TX3711 Ex d Connectors

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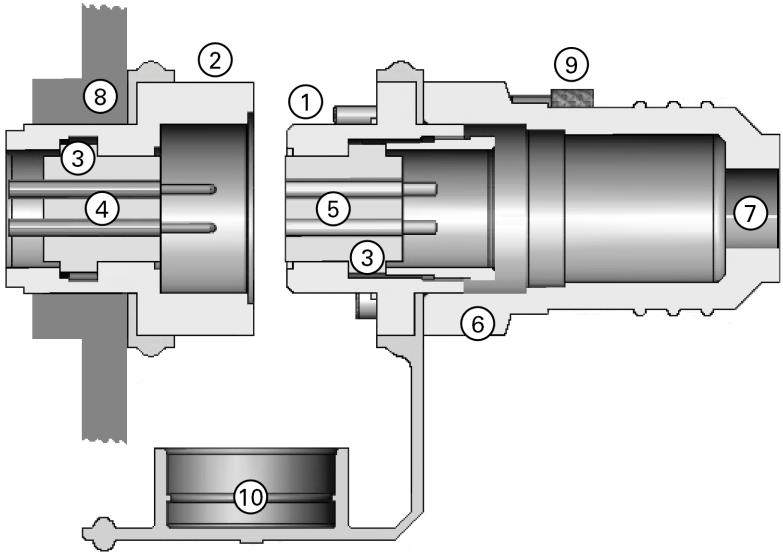
1. Product Overview

Multi pin connector in two shell sizes:

TX3700 **TX3710**	Accommodates 4, 10 and 14 contact ways
TX3701 **TX3711**	Accommodates 26 and 37 contact ways OR Accommodates 3 and 8 high voltage contact ways

- The socket section may be mounted on to an Ex d enclosure or fitted on to a suitable cable
- The plug section may be fitted on to a suitable cable
- The contacts are suitable for solder or crimp connections
- Standard Ex d cable glands are utilised - not included unless specified
- Versions available:
  Brass or Stainless Steel - Group I & II
  Aluminium - Group II only
- Supplied with flexible ingress protecting cover caps
- Ex d blanking covers may be supplied where specified
- Some versions supplied with short pin for pilot circuit tripping

1.1 Operating Features



1 Machined metal plug unit with engagement plug forming the flame path

2 Machined metal socket unit with engagement receptacle forming the flame path

3 High grade co-polymer contact insert carrying slide-in contact pins and tubes

4 Silver plated contact pins suitable for solder or crimp connections

5 Silver plated contact tubes with longitudinal multi-contact springs for high reliability and low insertion force, providing exceptionally low contact resistance

6 Machined metal cover shell for terminating the incoming cable utilising standard Ex d cable glands of choice

7 Choice of cable gland entry thread to specification

8 Ex d or Ex e enclosure with basic socket unit fitted or cable line-connector

9 Two large, hand operated, mating screws to quickly unite the connector with complete security

10 Extremely tough moulded urethane weather caps permanently attached and ready to hand, incorporating shock fenders and IP67 captive ingress seals

1.2 Application

High integrity, multi path, robust, explosion proof connector, designed for extra heavy duty and critical applications in Group I and Group II hazardous areas.

Checkpoint
Versions supplied in Aluminium are suitable for Group II environments ONLY.

Rapid and convenient connect/disconnect of control circuits and power circuits for electrical equipment installation.

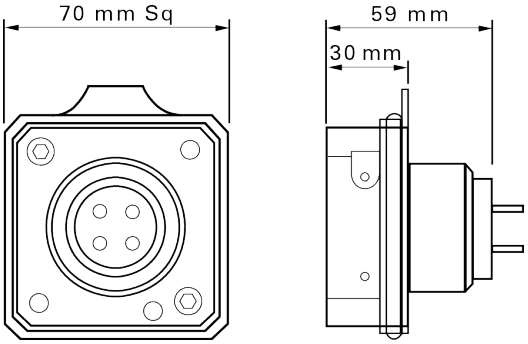
Mining, tunnelling, offshore oil and gas platforms, petrochemical plants, process plants, storage areas and pump stations.

Component acceptance certification for ATEX and IECEx.

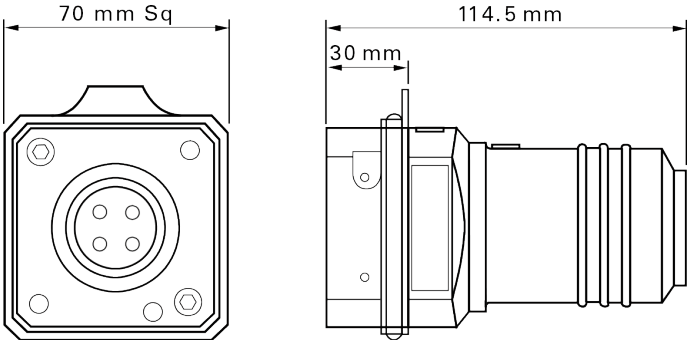
1.3 Dimensions

1.3.1 TX3700 and TX3710 Dimensions

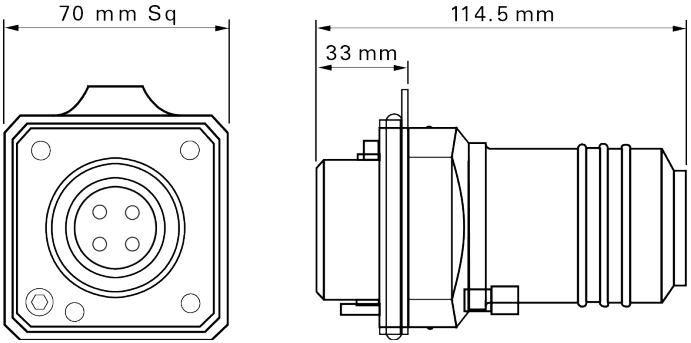
TX3700 and TX3710 Socket



TX3700 and TX3710 Socket with Cover Shell

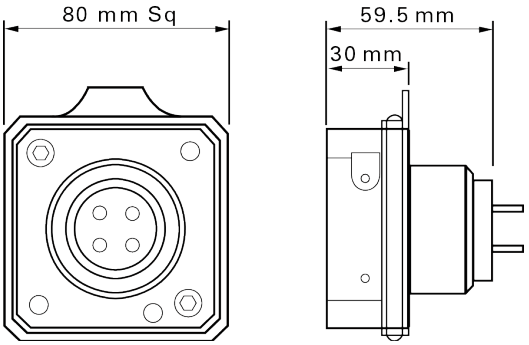


TX3700 and TX3710 Plug with Cover Shell

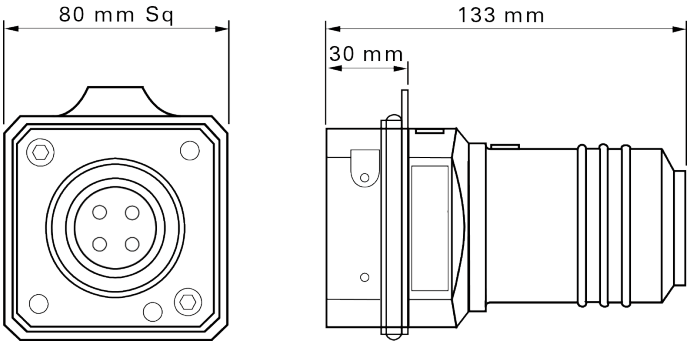


1.3.2 TX3701 and TX3711 Dimensions

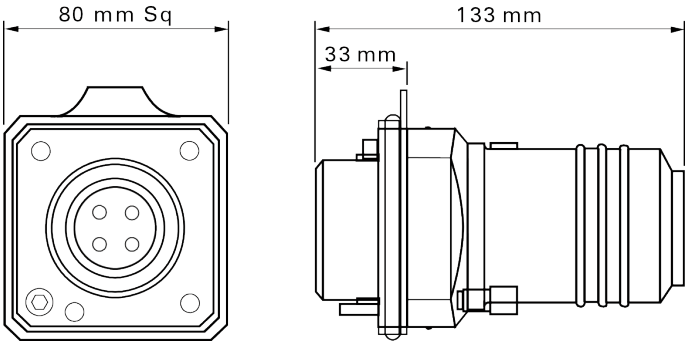
TX3701 and TX3711 Socket



TX3701 and TX3711 Socket with Cover Shell

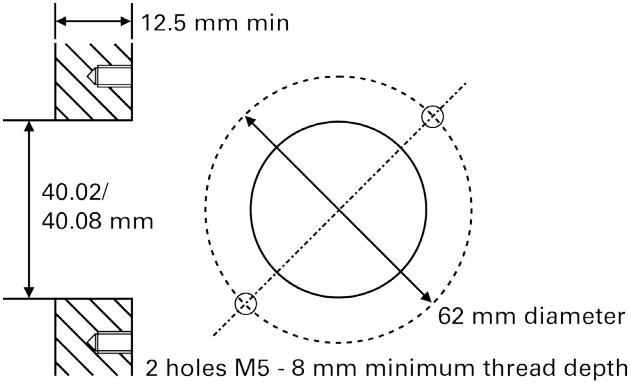


TX3701 and TX3711 Plug with Cover Shell

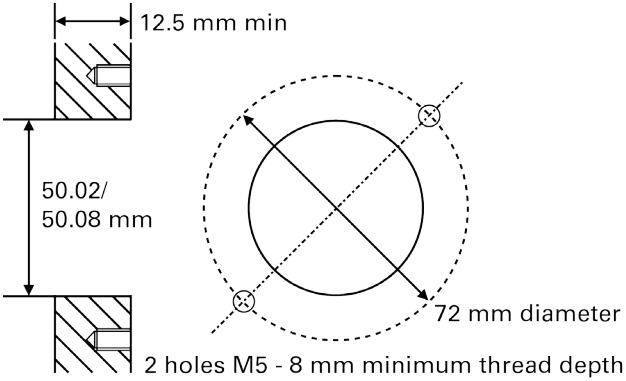


1.4 Socket Installation Dimensions

1.4.1 TX3700 and TX3710 Socket Installation Dimensions

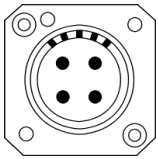
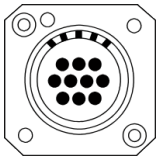
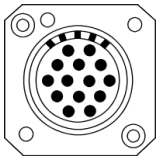


1.4.2 TX3701 and TX3711 Socket Installation Dimensions

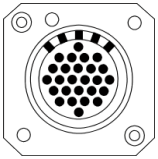
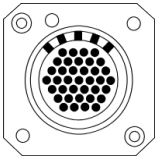
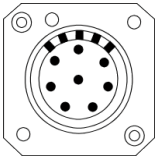
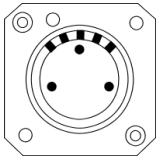


1.5 Technical Information

1.5.1 TX3700 and TX3710 Technical Information

	4 contacts	10 contacts	14 contacts
			
Maximum current per pin:	25 A	25 A	20 A
Maximum total current:	100 A	100 A	100 A
Contact resistance:	400 µ ohms	400 µ ohms	400 µ ohms
Contact diameter:	2.3 mm	2.3 mm	2.0 mm
Maximum conductor size:	2.5 mm^2	2.5 mm^2	2.0 mm^2
Maximum insulation diameter:	3.5 mm	3.5 mm	3.0 mm
Maximum voltage:	240 V ac/300 V dc		
Test voltage:	2000 V		
Termination:	The contacts are suitable for both solder or 8 point crimp termination		
Contact material:	Silver plated brass		
Contact insulator:	Acetal co-polymer		
Ingress protection:	Dust and water proof to IP67		
Ambient temperature range:	-20°C to +55°C		

1.5.2 TX3701 and TX3711 Technical Information

			High Voltage Contacts	
	26 contacts	37 contacts	8 contacts	3 contacts
				
Maximum current per pin:	20 A	20 A	20 A	20 A
Maximum total current:	100 A	100 A	100 A	100 A
Contact resistance:	400 µ ohms	400 µ ohms	400 µ ohms	400 µ ohms
Contact diameter:	2.0 mm	2.0 mm	2.0 mm	2.0 mm
Maximum conductor size:	2.0 mm^2	2.0 mm^2	2.0 mm^2	2.0 mm^2
Maximum insulation diameter:	3.0 mm	3.0 mm	3.0 mm	3.0 mm
Maximum voltage:	240 V ac/300 V dc		1500 V ac/2200 V dc	
Test voltage:	2000 V		4000 V ac/5400 V dc	
Termination:	The contacts are suitable for both solder or 8 point crimp termination		The contacts are suitable for solder connection only	
Contact material:	Silver plated brass			
Contact insulator:	Acetal co-polymer			
Ingress protection:	Dust and water proof to IP67			
Ambient temperature range:	-20°C to +55°C		-20°C to +70°C	

2. Certification

2.1 Europe:
ATEX Certification - for use in Group I and Group II hazardous areas

ATEX directive 94/9/EC
Complies with ATEX directive 94/9/EC

2.1.1 ATEX - Equipment Approval

Product Code:	Ex Certificate Number:	Ex Certification Code:
TX3700 Connector (SS+PS, S+PS)	Baseefa 06ATEX0307X	I M2 Ex db I Mb (-20°C ≤ Tamb ≤ +55°C) II 2G Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3700 Connector with socket encapsulation (ES+PS)	Baseefa 06ATEX0307X	I M2 Ex db e I Mb (-20°C ≤ Tamb ≤ +55°C) II 2G Ex db e IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3701 Connector (SS+PS, S+PS)	Baseefa 06ATEX0308X	I M2 Ex db I Mb (-20°C ≤ Tamb ≤ +55°C) II 2G Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3701 Connector (ES+PS)	Baseefa 06ATEX0308X	I M2 Ex db e I Mb (-20°C ≤ Tamb ≤ +55°C) II 2G Ex db e IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3701 Connector – 3 or 8 contacts – high voltage (SS+PS, S+PS)	Baseefa 06ATEX0308X	I M2 Ex db I Mb (-20°C ≤ Tamb ≤ +70°C) II 2G Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +70°C)
TX3710 Connector (SS+PS, S+PS)	Baseefa 06ATEX 0307X	II 2G Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)

2.1.1 ATEX - Equipment Approval - continued

Product Code:	Ex Certificate Number:	Ex Certification Code:
TX3710 Connector with socket encapsulation (ES+PS)	Baseefa 06ATEX 0307X	II 2G Ex db e IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3711 Connector (SS+PS, S+PS)	Baseefa 06ATEX 0308X	II 2G Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3711 Connector with socket encapsulation (ES+PS)	Baseefa 06ATEX 0308X	II 2G Ex db e IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3711 Connector – 3 or 8 contacts – high voltage (SS+PS, S+PS)	Baseefa 06ATEX 0308X	II 2G Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +70°C)

2.1.2 ATEX - Component Approval

Complies with the ATEX directive (94/9/EC). These have "component certificates" which simplify the certification procedure of equipment to which a connector will be fitted. This means that the connector is accepted as being suitable for use on other Group I and Group IIB Flameproof equipment. It will not be necessary to submit documentation or connector samples for repeat examination and testing when it is incorporated into new flameproof designs.

Product Code:	Ex Certificate Number:	Ex Certification Code:
TX3700.SS Cable Mounted Socket	Baseefa 06ATEX0305U	I M2 Ex db I Mb II 2G Ex db IIB Gb
TX3700.PS Cable Mounted Plug	Baseefa 06ATEX0305U	I M2 Ex db I Mb II 2G Ex db IIB Gb
TX3700.BS Socket Blank	Baseefa 06ATEX0305U	I M2 Ex db I Mb II 2G Ex db IIB Gb
TX3700.BP Plug Blank	Baseefa 06ATEX0305U	I M2 Ex db I Mb II 2G Ex db IIB Gb
TX3700.S Basic Socket	Baseefa 06ATEX0305U	I M2 Ex db I Mb II 2G Ex db IIB Gb
TX3700.ES Basic socket for Ex e enclosures	Baseefa 06ATEX0305U	I M2 Ex db e I Mb II 2G Ex db e IIB Gb
TX3701.SS Cable Mounted Socket	Baseefa 06ATEX0306U	I M2 Ex db I Mb II 2G Ex db IIB Gb
TX3701.PS Cable Mounted Plug	Baseefa 06ATEX0306U	I M2 Ex db I Mb II 2G Ex db IIB Gb
TX3701.BS Socket Blank	Baseefa 06ATEX0306U	I M2 Ex db I Mb II 2G Ex db IIB Gb
TX3701.BP Plug Blank	Baseefa 06ATEX0306U	I M2 Ex db I Mb II 2G Ex db IIB Gb
TX3701.S Basic Socket	Baseefa 06ATEX0306U	I M2 Ex db I Mb II 2G Ex db IIB Gb
TX3701.ES Basic socket for Ex e enclosures	Baseefa 06ATEX0306U	I M2 Ex db e I Mb II 2G Ex db e IIB Gb

2.1.2 ATEX - Component Approval - continued

Product Code:	Ex Certificate Number:	Ex Certification Code:
TX3710.SS Cable Mounted Socket	Baseefa 06ATEX0305U	II 2G Ex db IIB Gb
TX3710.PS Cable Mounted Plug	Baseefa 06ATEX0305U	II 2G Ex db IIB Gb
TX3710.BS Socket Blank	Baseefa 06ATEX0305U	II 2G Ex db IIB Gb
TX3710.BP Plug Blank	Baseefa 06ATEX0305U	II 2G Ex db IIB Gb
TX3710.S Basic Socket	Baseefa 06ATEX0305U	II 2G Ex db IIB Gb
TX3710.ES Basic socket for Ex e enclosures	Baseefa 06ATEX0305U	II 2G Ex db e IIB Gb
TX3711.SS Cable Mounted Socket	Baseefa 06ATEX0306U	II 2G Ex db IIB Gb
TX3711.PS Cable Mounted Plug	Baseefa 06ATEX0306U	II 2G Ex db IIB Gb
TX3711.BS Socket Blank	Baseefa 06ATEX0306U	II 2G Ex db IIB Gb
TX3711.BP Plug Blank	Baseefa 06ATEX0306U	II 2G Ex db IIB Gb
TX3711.S Basic Socket	Baseefa 06ATEX0306U	II 2G Ex db IIB Gb
TX3711.ES Basic socket for Ex e enclosures	Baseefa 06ATEX0306U	II 2G Ex db e IIB Gb
TX3711.SS.08P & **03P**	Baseefa 06ATEX0306U	II 2G Ex db IIB Gb
TX3711.PS.08T & **03T**	Baseefa 06ATEX0306U	II 2G Ex db IIB Gb

2.1.3 ATEX - Specific Conditions of use

1. The sockets TX3700.S, TX3701.S, TX3710.S and TX3711.S are to be mounted in the wall of an appropriate flameproof enclosure with an interface as shown on the drawings listed on certificate numbers:
   Baseefa 06ATEX0305U for the TX3700 and TX3710
   Baseefa 06ATEX0306U for the TX3701 and TX3711

2.i The TX3700 and TX3710 sockets are to be used in conjunction with a plug as Certificate Baseefa 06ATEX0305U or a blanking plug as covered by Certificate Baseefa 06ATEX0305U.

2.ii The TX3701 and TX3711 sockets are to be used in conjunction with a plug as Certificate Baseefa 06ATEX0306U or a blanking plug as covered by Certificate Baseefa 06ATEX0306U.

3. When a socket is not fitted with a plug or blanking cover, all the electrical circuits in the associated flameproof enclosure must be de-energised.

4. The maximum flameproof gaps shall not exceed 0.2 mm, as on the drawings listed on certificate numbers:
   Baseefa 06ATEX0305U for the TX3700 and TX3710
   Baseefa 06ATEX0306U for the TX3701 and TX3711

5. When the TX3700.ES, TX3701.ES, TX3710.ES or TX3711.ES socket connector is used, it shall be mounted to an enclosure in accordance with the certification drawings.

6. When the TX3700.ES, TX3701.ES, TX3710.ES or TX3711.ES socket connector is used, the Ingress Protection of the enclosure shall be maintained.

7. For TX3710 and TX3711, Ex enclosure mountable socket versions of the connectors, the maximum reference pressure shall be no greater than 20 bar.

2.2 International: IECEx Certification

2.2.1 IECEx - Equipment Approval

Product Code:	Ex Certificate Number:	Ex Certification Code:
TX3700 Connector (SS+PS, BS+PS)	IECEx BAS 12.0035X	Ex db I Mb (-20°C ≤ Tamb ≤ +55°C) Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3700 Connector with socket encapsulation (ES+PS)	IECEx BAS 12.0035X	Ex db e I Mb (-20°C ≤ Tamb ≤ +55°C) Ex db e IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3701 Connector (SS+PS, BS+PS)	IECEx BAS 12.0037X	Ex db I Mb (-20°C ≤ Tamb ≤ +55°C) Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3701 Connector with socket encapsulation (ES+PS)	IECEx BAS 12.0037X	Ex db e I Mb (-20°C ≤ Tamb ≤ +55°C) Ex db e IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3701 Connector – 3 or 8 contacts – high voltage (SS+PS)	IECEx BAS 12.0037X	Ex db I Mb (-20°C ≤ Tamb ≤ +70°C) Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +70°C)
TX3710 Connector (SS+PS, BS+PS)	IECEx BAS 12.0035X	Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3710 Connector with socket encapsulation (ES+PS)	IECEx BAS 12.0035X	Ex db IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)

2.2.1 IECEx - Equipment Approval - continued

Product Code:	Ex Certificate Number:	Ex Certification Code:
TX3711 Connector (SS+PS, BS+PS)	IECEx BAS 12.0037X	Ex db e IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3711 Connector with socket encapsulation (ES+PS)	IECEx BAS 12.0037X	Ex db e IIB T6 Gb (-20°C ≤ Tamb ≤ +55°C)
TX3711 Connector – 3 or 8 contacts – high voltage (SS+PS)	IECEx BAS 12.0037X	Ex db e IIB T6 Gb (-20°C ≤ Tamb ≤ +70°C)

2.2.2 IECEx - Component Approval

Complies with the ATEX directive (94/9/EC). These have "component certificates" which simplify the certification procedure of equipment to which a connector will be fitted. This means that the connector is accepted as being suitable for use on other Group I and Group IIB Flameproof equipment. It will not be necessary to submit documentation or connector samples for repeat examination and testing when it is incorporated into new flameproof designs.

Product Code:	Ex Certificate Number:	Ex Certification Code:
TX3700.SS Cable Mounted Socket	IECEx BAS 12.0034U	Ex db I Mb Ex db IIB Gb
TX3700.PS Cable Mounted Plug	IECEx BAS 12.0034U	Ex db I Mb Ex db IIB Gb
TX3700.BS Socket Blank	IECEx BAS 12.0034U	Ex db I Mb Ex db IIB Gb
TX3700.BP Plug Blank	IECEx BAS 12.0034U	Ex db I Mb Ex db IIB Gb
TX3700.S Basic Socket	IECEx BAS 12.0034U	Ex db I Mb Ex db IIB Gb
TX3700.ES Basic socket for Ex e enclosures	IECEx BAS 12.0034U	Ex db e I Mb Ex db e IIB Gb
TX3701.SS Cable Mounted Socket	IECEx BAS 12.0036U	Ex db I Mb Ex db IIB Gb
TX3701.PS Cable Mounted Plug	IECEx BAS 12.0036U	Ex db I Mb Ex db IIB Gb
TX3701.BS Socket Blank	IECEx BAS 12.0036U	Ex db I Mb Ex db IIB Gb
TX3701.BP Plug Blank	IECEx BAS 12.0036U	Ex db I Mb Ex db IIB Gb
TX3701.S Basic Socket	IECEx BAS 12.0036U	Ex db I Mb Ex db IIB Gb
TX3701.ES Basic socket for Ex e enclosures	IECEx BAS 12.0036U	Ex db e I Mb Ex db e IIB Gb

2.2.2 IECEx - Component Approval - continued

Product Code:	Ex Certificate Number:	Ex Certification Code:
TX3710.SS Cable Mounted Socket	IECEx BAS 12.0034U	Ex db IIB Gb
TX3710.PS Cable Mounted Plug	IECEx BAS 12.0034U	Ex db IIB Gb
TX3710.BS Socket Blank	IECEx BAS 12.0034U	Ex db IIB Gb
TX3710.BP Plug Blank	IECEx BAS 12.0034U	Ex db IIB Gb
TX3710.S Basic Socket	IECEx BAS 12.0034U	Ex db IIB Gb
TX3710.ES Basic socket for Ex e enclosures	IECEx BAS 12.0034U	Ex db e IIB Gb
TX3711.SS Cable Mounted Socket	IECEx BAS 12.0036U	Ex db IIB Gb
TX3711.PS Cable Mounted Plug	IECEx BAS 12.0036U	Ex db IIB Gb
TX3711.BS Socket Blank	IECEx BAS 12.0036U	Ex db IIB Gb
TX3711.BP Plug Blank	IECEx BAS 12.0036U	Ex db IIB Gb
TX3711.S Basic Socket	IECEx BAS 12.0036U	Ex db IIB Gb
TX3711.ES Basic socket for Ex e enclosures	IECEx BAS 12.0036U	Ex db e IIB Gb

2.2.3 IECEx - Specific Conditions of use

1. The sockets TX3700.S, TX3701.S, TX3710.S and TX3711.S are intended to be mounted in the wall of an appropriate flameproof enclosure with an interface as shown on the certified drawings listed in the following documents: Test Report GB/BAS/ExTR12.0042/00
2. The sockets TX3700.ES, TX3701.ES, TX3710.ES and TX3711.ES are intended to be mounted in the wall of an appropriate increased safety enclosure with an interface as shown on the certified drawings listed in the following documents: Test Report GB/BAS/ExTR12.0042/00

3.i The TX3700 and TX3710 sockets, covered by Certificate IECEx BAS 12.0034U, are to be used in conjunction with a plug or blanking plug covered by the same certificate.

3.ii The TX3701 and TX3711 sockets, covered by Certificate IECEx BAS 12.0036U, are to be used in conjunction with a plug or blanking plug covered by the same certificate.

4. When a socket is not fitted with a plug or blanking cover, all the electrical circuits in the associated flameproof enclosure must be de-energised.
5. The maximum flamepath gaps shall not exceed 0.2mm, as on the certified drawings listed in the following documents:
   Test Report GB/BAS/ExTR12.0042/00
6. When the TX3700.ES, TX3701.ES, TX3710.ES and TX3711.ES socket connector is used, it shall be mounted to an enclosure in accordance with the certification drawings.
7. When the TX3700.ES, TX3701.ES, TX3710.ES and TX3711.ES socket connector is used, the Ingress Protection of the enclosure shall be maintained.
8. For TX3710 and TX3711 the Ex enclosure mountable socket versions of the connectors, the maximum reference pressure shall be no greater than 20 bar.

2.3 Russia: GOST-R Certification

2.3.1 GOST-R - Approval

Product Code:	Ex Certificate Number:	Ex Marking:
TX3700 only	POCC GB ГЪ05.B03980	Ex d IIB T6 Ex d e IIB T6

2.3.2 GOST-R - Specific Conditions of use

1. Prior to installation, it is essential that user refers to the above certificate for any specific conditions of use. Copies of certificates are available from Trolex.

3. Fitting and Installation

3.1 Precautions

Ensure that the current and voltage parameters of the electrical circuits are within the limitations specified.

Ensure that all weather seals are present.

The cable gland used with the connector must be an approved Ex d type which is suitably certified for the equipment, the cable and designed for use with single wire armoured cable.

The multi-core cable must be a type approved for the conditions of use.

The sealing faces and flame paths will have been treated with a protective film of grease during manufacture. Renew if necessary before assembly.

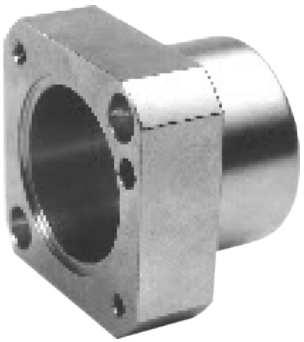
Ensure that all body screws and mating screws are in place and are fully engaged before switching on the supply.

Always electrically isolate all electrical circuits to the connector before disconnecting.

Fit weatherproof cover caps to disengaged connectors to protect the flame paths and to prevent the ingress of debris and moisture into the contact insert.

Do not disengage the connector by pulling the cable as this may damage the fitting of the cable in the cable gland.

A connector with a damaged flame path is an explosion risk and should be removed from service immediately. Damaged flame paths cannot be repaired.



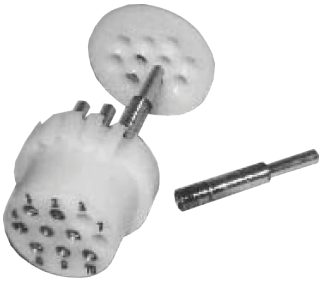
An Ex d blanking cover must be fitted to the open face of a disengaged connector if it is necessary to re-energise any of the circuits passing through that connector.

3.2 Tools and Equipment

- M5 hex key
- Soldering iron OR eight point crimping tool: DMC FT8
- Suitable approved Ex cable glands

3.3 General Assembly and Definitions

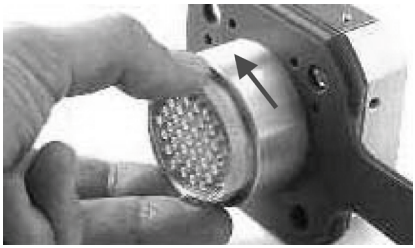
Easily removable contact inserts for solder or crimp connection.

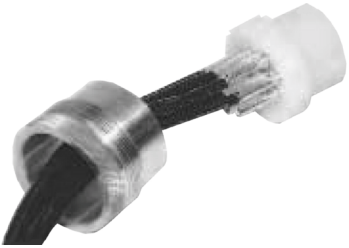


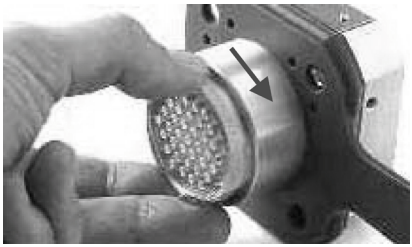
Checkpoint
The pins and tubes fitted to the TX3701/11, 3 contact and 8 contact high voltage versions are permanently fixed into the insert and cannot be removed for crimping purposes.

Contact inserts are matched pairs, carrying pins and tubes respectively. The contact numbers are printed in red and blue on corresponding pairs to avoid confusion when making-off the connectors. Blue in the socket unit and Red in the plug unit.

It is recommended that pins are fitted into socket units. This will provide physical protection to the pins when the connector is disengaged.







3.4 Fitting and Wiring a Socket Unit to an Existing Ex Housing

3.4.1 Soldered Connections

1. Prepare a cut out in the housing for mounting the socket unit.
2. If required, lightly lubricate the flamepaths, sealing faces and body screws using a suitable non-hardening grease.
3. Insert the socket unit into the prepared aperture.
4. Make sure that the moulded weather seal is fitted in place which also incorporates the weather cap.
5. Secure the assembly into the housing using the two M5 socket head screws provided.
6. On the rear of the socket unit unscrew the knurled clamping ring that holds the contact insert in place and remove the complete contact insert.
7. Prepare the connecting wires by stripping the end insulation by approximately 6 mm.
8. Feed the connecting wires through the clamping ring.

Checkpoint
Make sure that the clamping ring is the correct way round.

9. Solder the wires into the recess at the end of each contact.
10. Refit the contact insert into the socket body and secure it using the knurled clamping ring.

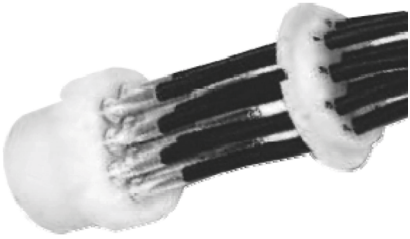
Checkpoint
If preferred, the contacts can be removed from the insert to make soldering easier. Follow the instructions in the procedure for making Crimped Connections.

Checkpoint
Do not allow any solder to collect on the outer diameter of the contact as this will effectively increase its diameter and make it difficult to push back into the insert.

3.4.2 Crimped Connections

1. Prepare a cut out in the housing for mounting the socket unit.
2. If required, lightly lubricate the flamepaths, sealing faces and body screws using a suitable non-hardening grease.
3. Insert the socket unit into the prepared aperture.
4. Make sure that the moulded weather seal is fitted in place which also incorporates the weather cap.
5. Secure the assembly into the housing using the two M5 socket head screws provided.
6. On the rear of the socket unit unscrew the knurled clamping ring that holds the contact insert in place and remove the complete contact insert.
7. Prepare the connecting wires by stripping the end insulation by approximately 6 mm.
8. Feed the connecting wires through the clamping ring.

Checkpoint
Make sure that the clamping ring is the correct way round.



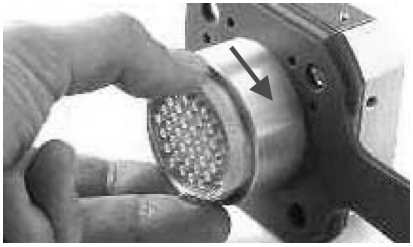
9. The contact insert divides into two parts. Separate the two parts and feed the wires individually through the holes in the top part of the insert, taking care to relate the wire numbers to the contact numbers if applicable. Make sure that the large diameter is facing the end of the cores.

Checkpoint
Ensure that all wires are running parallel with no cross-overs.

10. Remove each contact from the bottom half of the contact insert, crimp the appropriate wire into the recess at the end of the contact.

Checkpoint
Carry out a pull test to check the integrity of the crimp connection.

11. Refit each contact into the corresponding hole in the bottom half of the contact insert.
12. Close the two halves of the contact insert together.
13. Refit the contact insert into the socket body and secure it using the knurled clamping ring.

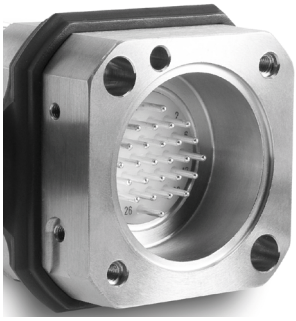


3.5 Mounting a Socket Unit on an Existing Ex d Housing

3.5.1 Internal Earth Bonding

If the installation requires the connector to be separately earthed, then an earth bonding conductor can be crimped into the locking ring using the crimp connector provided.

3.5.2 Integrity of the Socket Unit

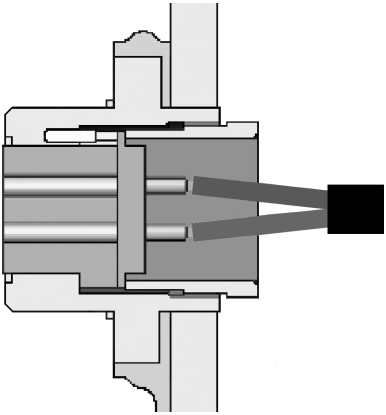


The socket unit maintains the Ex d integrity of the enclosure to which it is fitted even when disengaged, as long as a socket blank is fitted to the socket and there is no voltage present on the exposed contacts.

3.5.3 Ingress Protection

When fitting a TX3700, TX3710, TX3701 or TX3711 socket unit to an existing enclosure it is important to ensure that the method chosen will maintain a minimum standard of ingress protection.

- Fit the face seal provided
- Threaded fixing holes must be blind where possible. If through holes are used, apply a thread sealant or place a resilient sealing washer under the heads of the fixing screws
- The IP54 rating of the two fastening holes shall be maintained in accordance with IEC/EN 60079-14



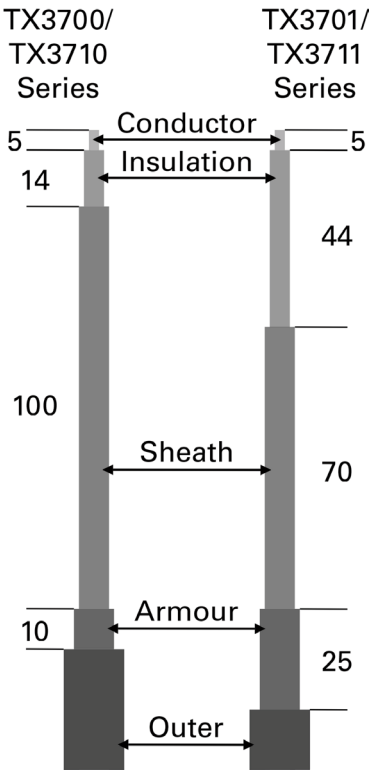
3.5.4 Mounting a Socket Unit on an Ex e Housing

Some versions of the socket unit are approved for use in Ex e housings and may be supplied with flexible wires already connected to the contact insert.

In this case, the rear of the contact insert will be encapsulated in resin.

Equipment certification for Ex d e versions:

- Ex I M2 Ex d e I
- Ex II 2G Ex d e IIB T6



3.6 Fitting a Socket Unit as a Line Connector

3.6.1 Adding a Cover Shell to a Socket Unit

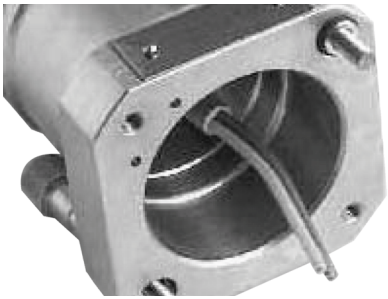
A line connector is created by adding a cover shell and a suitable cable gland to the back of a basic socket unit. This can be used as an in-line coupler or as a cable-line connection to a corresponding socket unit.

1. Prepare the cable in accordance with the diagram.

2. Make off the cable into the cable gland in the normal way, making sure that the cable armour is firmly clamped and that the outer seal is in place and fully compressed.

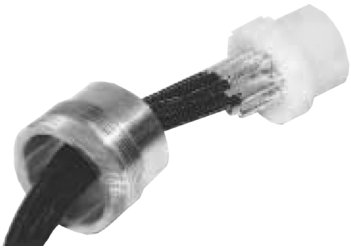
Checkpoint
Check the cable and cable gland approval and suitability.

3. Remove the cover shell from the connector and fit the cable gland into the tapped entry, feeding the cable cores through the cover shell.

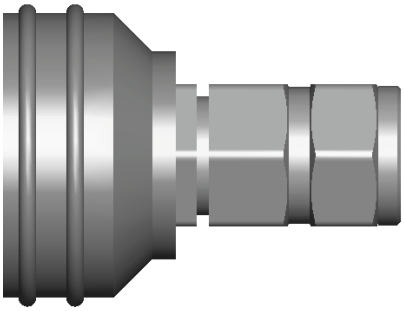


Checkpoint
Make sure that the cable gland sealing ring is in place.

4. Make the cable core connections to the contact insert in the same way as described for the socket unit (soldered or crimped).
5. Replace the cover shell rotating it half a turn as it closes, to help the cable cores to coil inside the cover shell. Fit and tighten the cover shell securing screws.



Checkpoint
Is the weather seal fitted?



3.6.2 Ingress Protection

The connector body itself has been tested to IP67.

Ingress protection capability is also affected by the choice of cable gland and the effectiveness of its installation to the cover shell of the connector.

3.6.3 Mating

1. Align the alignment pin with the corresponding hole.
2. Mate the plug unit and socket unit together.
3. Tighten the two securing screws by hand.
4. Tighten fully using the hex key provided.

Checkpoint
Is the weather seal fitted?

3.6.4 External Earth Bonding

For external earth bonding use the external earthing facilities and crimp connectors provided.

3.7 Coding Positions

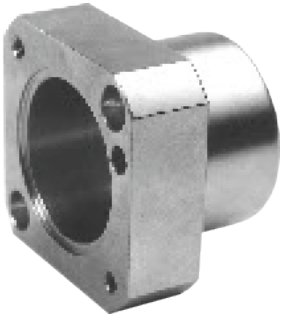
Up to five coding position options are available to prevent incorrect mating of adjacent connectors.

The contact inserts have five coding slots angularly distributed around the top half of the insert retaining flange to engage with a corresponding coding pin.

The contact insert can be rotated in the housing to any of five positions to prevent prohibited mating.

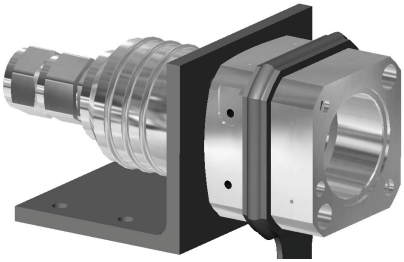
Checkpoint
Use the contact reference numbers as a guide to indicate which coding slot is being used when viewed from each side of a connector pair.

3.8 Ex d Blanking Covers

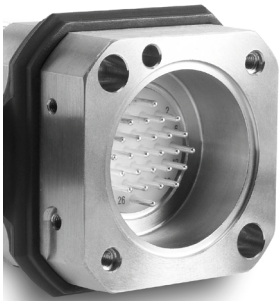


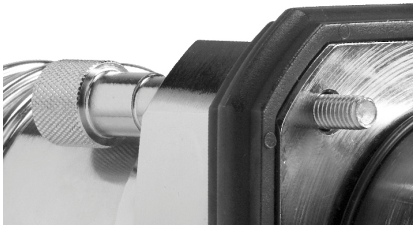
Machined Ex d weatherproof cover caps must be fitted to disengaged plugs or sockets to maintain Ex d integrity when it is necessary to re-apply electrical power to the system.

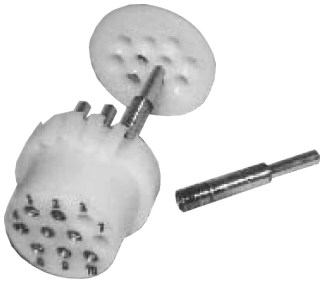
3.9 Mounting Bracket



Use a mounting bracket to anchor line-connected pairs of plugs and sockets to support trailing cable systems.







4. Maintenance

4.1 Introduction

To keep your TX3700, TX3701, TX3710 or TX3711 connectors in the best possible condition and minimise downtime, Trolex strongly recommends that you check the condition of the connectors every six months. Keep records of the maintenance carried out. The planned preventative maintenance for the TX3700, TX3701, TX3710 and TX3711 connectors is listed below:

1. Check the flame paths for damage. Damaged flame paths cannot be repaired. Return the connector to Trolex or your local Trolex agent for repair.
2. Check that the body screws and mating screws are fully engaged.

Checkpoint
If body or mating screws are damaged and need to be replaced you must replace them with stainless steel screws of the same grade. The screws are grade A2-70.

3. Check for bent or worn pins and tubes in the contact insert.
4. Check for the presence of moisture and remove any debris that may have accumulated inside.
5. Replenish the lubrication of the flame paths and sealing faces using a suitable non-hardening grease.
6. Check the integrity of the cable connection into the cable gland and ensure that the gland is tight in its thread.

7. Check that all weather seals are present and in good condition.
8. Check for any damage or corrosion on any part of the connector housing.
9. Repair or rectify the connector as necessary.
10. After the completion of all maintenance, update the maintenance records.

4.2 Support

If you need technical support to operate this product, or would like detail of our after sales technical support packages, please contact our local Trolex service agent or **service@trolex.com**.

4.3 Disposal

Part of the ethos of Trolex is sustainable design. **Ex d Connectors** contain materials that can be recovered, recycled and reused. At the end of its useful life ensure that the **Ex d Connector** is recycled in accordance with local laws and bylaws for the geographic area where it is located. The end of its useful life is to be determined by the owner/operator of the equipment and not Trolex. Ensure that the **Ex d Connector** is recycled by licenced waste contractors with the appropriate licences for handling metallic waste in the geographic area where the **Ex d Connector** is located.

Checkpoint
Consult your local Trolex service agent or the Trolex Product Support Department if you require assistance with disposal:
service@trolex.com

4.4 Maintenance Records

Implement a planned preventative maintenance process and keep good maintenance records.

Consult your local Trolex service agent or the Trolex Product Support Department: **service@trolex.com** for help in implementing a planned preventative maintenance process.

Disclaimers

The information provided in this document contains general descriptions and technical characteristics of the performance of the product. It is not intended as a substitute for and is not to be used for determining suitability or reliability of this product for specific user applications. It is the duty of any user or installer to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use. Trolex shall not be responsible or liable for misuse of the information contained herein. If you have any suggestions for improvements or amendments, or find errors in this publication, please notify us at marketing@trolex.com.

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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only Trolex or its affiliates should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

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